0590
0425

#6

OIPE

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RAW SEQUENCE LISTING              DATE: 04/24/2002
PATENT APPLICATION: .US/10/036,492   TIME: 14:28:08

Input Set : A:\217943US0XCONT.txt
Output Set: N:\CRF3\04242002\J036492.raw
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P.6

ENTERED

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 3 <110> APPLICANT: HEMERLY, ADRIANA
 4        FERREIRA, PAULO
 5        ROMBAUTS, STEPHANE
 7 <120> TITLE OF INVENTION: PLANT DNA REPLICATION MODULATING PROTEINS
 9 <130> FILE REFERENCE: 217943US0XCONT
11 <140> CURRENT APPLICATION NUMBER: US 10/036,492
12 <141> CURRENT FILING DATE: 2002-01-07
14 <150> PRIOR APPLICATION NUMBER: EP 99202214.5
15 <151> PRIOR FILING DATE: 1999-07-05
17 <160> NUMBER OF SEQ ID NOS: 35
19 <170> SOFTWARE: PatentIn version 3.1
21 <210> SEQ ID NO: 1
22 <211> LENGTH: 889
23 <212> TYPE: PRT
24 <213> ORGANISM: Arabidopsis thaliana
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32 Arg Glu Leu Ile Pro Leu Ser Pro Thr Asn Ser Asp Gly Asn Asp Asp
33               20                  25                  30
36 Leu Asn Tyr His Leu His Ala Phe Glu Leu Ser Arg Leu Leu Leu Ser
37           35                  40                  45
40 Ser Gly His Pro Glu Ser Val Ile Asp Leu Ser Ser Lys Cys Thr Tyr
41       50                  55                  60
44 Phe Gln Gly Ser Pro Asn Leu Val Lys Tyr Leu Cys Ser Ile Pro Asn
45 65                  70                  75                  80
48 Ser Pro Ile Ser Leu Ala Glu Asp Gly Phe Thr Val Thr Leu Ser Pro
49                   85                  90                  95
52 Glu Ser Pro Ser Ala Pro Ala Ser Phe Ala Cys Ser Leu Asp Leu Gln
53               100                 105                 110
56 Glu Asn Val Val Leu Glu Gln Phe Met Asp Pro Arg Ser Leu Thr Leu
57           115                 120                 125
60 Lys His Ser Arg Glu Asn Ala Glu Gln Glu Glu Leu Glu Leu Met Pro
61       130,                135                 140
64 Leu Pro Lys Arg Ser Arg Asn Asp Gly Asn Asp Val Asn Tyr Ser Val
65 145                 150                 155                 160
68 Ile Asp Ser Arg Pro Asn Asp Ile Arg Thr Val Ala Cys Gly Thr Met
69                   165                 170                 175
72 Leu Gly Thr Ile Leu Ala Leu Glu Ser Gln Ala Ser Val Phe Asn Leu
73               180                 185                 190
76 Ser Ala Ser Asn Arg Gly Ile Glu Ala Phe Val Gln Asp His Gln Pro
77           195                 200                 205
80 Gly Pro Gln Thr Ser Asn Ala Ser Val Asp Val Asn Pro Thr His Arg
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RAW SEQUENCE LISTING   DATE: 04/24/2002
PATENT APPLICATION: US/10/036,492   TIME: 14:28:08

Input Set : A:\217943US0XCONT.txt
Output Set: N:\CRF3\04242002\J036492.raw

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 84 Leu Glu Glu Ser Lys Asn Asp Leu Pro Ser Pro Gln Glu Asp Gly Tyr
 85 225              230              235              240
 88 Tyr Glu Arg Pro Glu Ile Gly Asp Phe Gln Ile Ala Asp Asn Gln Ile
 89              245              250              255
 92 Leu Ile Glu Glu Gly Asp Asp Lys Asn Lys Lys Asp Leu Phe Pro Lys
 93              260              265              270
 96 Gly Glu Ile Gln Thr Asp Ser Val Gln Ser Asp Pro Val Ala Ser Leu
 97              275              280              285
100 Met Pro Thr Glu Asn Glu Leu Glu Pro Val Gln Ile Val Asp Asp Thr
101         290              295              300
104 Glu Asp Leu Leu Val Asp Asp His Thr Val Asp Ile Val Ser Thr Pro
105 305              310              315              320
108 Asp Arg Glu Leu Pro Leu Lys Pro Ser Ala Thr Glu Ala Asn Gln Asp
109              325              330              335
112 Lys Ser Leu Val Gln Lys Thr Leu Asp Gln Cys Lys Leu Pro Gly Asn
113              340              345              350
116 Ser Lys Thr Tyr Ser Cys Ser Pro Glu Ile Lys His Thr Arg Lys Ser
117              355              360              365
120 Lys Val Ile Gln Lys Arg Lys Gln Asn Phe Asn Thr Val Arg Leu Lys
121         370              375              380
124 Asp Gln Lys Asp Gln Ala Lys His Asn Thr Ile Pro Asp Phe Asp Ser
125 385              390              395              400
128 Tyr Thr Ile Val Glu Glu Glu Gly Ser Gly Gly Tyr Gly Ile Val Tyr
129              405              410              415
132 Lys Ala Thr Arg Lys Thr Asp Gly Thr Glu Phe Ala Ile Lys Cys Pro
133         420              425              430
136 His Val Gly Ala Gln Lys Tyr Tyr Val Asn Asn Glu Ile Arg Met Leu
137         435              440              445
140 Glu Arg Phe Gly Gly Lys Asn Cys Ile Ile Lys His Glu Gly Cys Leu
141      450              455              460
144 Lys Asn Gly Asp Ser Asp Cys Ile Ile Leu Glu His Leu Glu His Asp
145 465              470              475              480
148 Arg Pro Asp Ser Leu Lys Arg Glu Ile Asp Val Tyr Gln Leu Gln Trp
149              485              490              495
152 Tyr Gly Tyr Cys Met Phe Lys Ala Leu Ser Ser Leu His Lys Gln Gly
153         500              505              510
156 Val Val His Arg Asp Val Lys Pro Gly Asn Phe Leu Phe Ser Arg Lys
157         515              520              525
160 Thr Asn Lys Gly Tyr Leu Ile Asp Phe Asn Leu Ala Met Asp Leu His
161      530              535              540
164 Gln Lys Tyr Arg Arg Ala Asp Lys Ser Lys Ala Ala Ser Gly Leu Pro
165 545              550              555              560
168 Thr Ala Ser Lys Lys His His Thr Leu Val Lys Ser Leu Asp Ala Val
169              565              570              575
172 Asn Arg Gly Thr Asn Lys Pro Ser Gln Lys Thr Leu Ala Pro Asn Ser
173         580              585              590
176 Ile Lys Lys Ala Ala Gly Lys Thr Arg Ala Arg Asn Asp Met Thr Arg
177         595              600              605
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RAW SEQUENCE LISTING   DATE: 04/24/2002
PATENT APPLICATION: US/10/036,492   TIME: 14:28:08

Input Set : A:\217943US0XCONT.txt
Output Set: N:\CRF3\04242002\J036492.raw

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181     610             615                 620
184 Ala Lys Asp Val Thr Ser Thr Arg Asn Asn Pro Ser Gly Glu Lys Arg
185 625             630                 635                 640
188 Arg Glu Pro Leu Pro Cys His Gly Arg Lys Ala Leu Leu Asp Phe Leu
189             645                 650                 655
192 Gln Glu Thr Met Ser Val Pro Ile Pro Asn His Glu Val Ser Ser Lys
193             660                 665                 670
196 Ala Pro Thr Ser Met Arg Lys Arg Val Ala Ala Leu Pro Gly Lys Ala
197         675             680                 685
200 Glu Lys Glu Leu Leu Tyr Leu Thr Pro Met Pro Leu Cys Ser Asn Gly
201     690             695                 700
204 Arg Pro Glu Ala Gly Asp Val Ile Glu Lys Lys Asp Gly Pro Cys Ser
205 705             710                 715                 720
208 Gly Thr Lys Gly Phe Arg Ala Pro Glu Val Cys Phe Arg Ser Leu His
209             725                 730                 735
212 Gln Gly Pro Lys Ile Asp Val Trp Ser Ala Gly Val Thr Leu Leu Tyr
213             740                 745                 750
216 Leu Ile Met Gly Arg Thr Pro Phe Thr Gly Asp Pro Glu Gln Asn Ile
217         755             760                 765
220 Lys Asp Ile Ala Gln Leu Arg Gly Ser Glu Glu Leu Trp Glu Val Ala
221     770             775                 780
224 Lys Leu His Asn Arg Glu Ser Ser Phe Pro Lys Glu Leu Tyr Glu Ser
225 785             790                 795                 800
228 Arg Tyr Leu Lys Gly Met Glu Leu Arg Lys Trp Cys Glu Leu Asn Thr
229             805                 810                 815
232 Lys Arg Arg Glu Phe Leu Asp Val Ile Pro Leu Ser Leu Leu Asp Leu
233             820                 825                 830
236 Val Asp Lys Cys Leu Thr Val Asn Pro Arg Arg Arg Ile Ser Ala Glu
237         835                 840                 845
240 Asp Ala Leu Lys His Asp Phe Phe His Pro Val His Glu Thr Leu Arg
241     850             855                 860
244 Asn Gln Met Leu Leu Lys Gln Gln Pro Thr Val Val Ala Asp Ala Val
245 865             870                 875                 880
248 Ser Gln Thr Leu Asn Tyr Leu Gln Leu
249             885
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253 <211> LENGTH: 20
254 <212> TYPE: PRT
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257 <220> FEATURE:
258 <223> OTHER INFORMATION: Synthetic Peptide
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266 Phe Ala Ile Lys
267             20
270 <210> SEQ ID NO: 3
271 <211> LENGTH: 20
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RAW SEQUENCE LISTING   DATE: 04/24/2002
PATENT APPLICATION: US/10/036,492   TIME: 14:28:08

Input Set : A:\217943US0XCONT.txt
Output Set: N:\CRF3\04242002\J036492.raw


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272 <212> TYPE: PRT
273 <213> ORGANISM: Artificial Sequence
275 <220> FEATURE:
276 <223> OTHER INFORMATION: Synthetic Peptide
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284 Arg Ala Pro Glu
285             20
288 <210> SEQ ID NO: 4
289 <211> LENGTH: 29
290 <212> TYPE: PRT
291 <213> ORGANISM: Artificial Sequence
293 <220> FEATURE:
294 <223> OTHER INFORMATION: Synthetic Peptide
296 <400> SEQUENCE: 4
298 Asn Ile Lys Asp Ile Ala Gln Leu Arg Gly Ser Glu Glu Leu Trp Glu
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303             20                  25
306 <210> SEQ ID NO: 5
307 <211> LENGTH: 728
308 <212> TYPE: PRT
309 <213> ORGANISM: Arabidopsis thaliana
311 <400> SEQUENCE: 5
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317 Phe Met Phe Thr Asn Ala Ile Phe Leu Cys Glu Leu Leu Leu Ala Gln
318             20                  25                  30
321 Phe Pro Ser Glu Val Asn Leu Gln Leu Leu Ala Arg Cys Tyr Leu Ser
322         35                  40                  45
325 Asn Ser Gln Ala Tyr Ser Ala Tyr Tyr Ile Leu Lys Gly Ser Lys Thr
326     50                  55                  60
329 Pro Gln Ser Arg Tyr Leu Phe Ala Phe Ser Cys Phe Lys Leu Asp Leu
330 65                  70                  75                  80
333 Leu Gly Glu Ala Glu Ala Ala Leu Leu Pro Cys Glu Asp Tyr Ala Glu
334                 85                  90                  95
337 Glu Val Pro Gly Gly Ala Ala Gly His Tyr Leu Leu Gly Leu Ile Tyr
338             100                 105                 110
341 Arg Tyr Ser Gly Arg Lys Asn Cys Ser Ile Gln Gln Phe Arg Met Ala
342         115                 120                 125
345 Leu Ser Phe Asp Pro Leu Cys Trp Glu Ala Tyr Gly Glu Leu Cys Ser
346     130                 135                 140
349 Leu Gly Ala Ala Glu Glu Ala Ser Thr Val Phe Gly Asn Val Ala Ser
350 145                 150                 155                 160
353 Gln Arg Leu Gln Lys Thr Cys Val Glu Gln Arg Ile Ser Phe Ser Glu
354             165                 170                 175
357 Gly Ala Thr Ile Asp Gln Ile Thr Asp Ser Asp Lys Ala Leu Lys Asp
358             180                 185                 190
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361 Thr Gly Leu Ser Gln Thr Glu His Ile Pro Gly Glu Asn Gln Gln Asp
362         195             200             205
365 Leu Lys Ile Met Gln Gln Pro Gly Asp Ile Pro Pro Asn Thr Asp Arg
366         210             215             220
369 Gln Leu Ser Thr Asn Gly Trp Asp Leu Asn Thr Pro Ser Pro Val Leu
370 225             230             235             240
373 Leu Gln Val Met Asp Ala Leu Pro Pro Leu Leu Leu Lys Asn Met Arg
374             245             250             255
377 Arg Pro Ala Val Glu Gly Ser Leu Met Ser Val His Gly Val Arg Val
378             260             265             270
381 Arg Arg Arg Asn Phe Phe Ser Glu Glu Leu Ser Ala Glu Ala Gln Glu
382         275             280             285
385 Glu Ser Gly Arg Arg Arg Ser Ala Arg Ile Ala Ala Arg Lys Lys Asn
386         290             295             300
389 Pro Met Ser Gln Ser Phe Gly Lys Asp Ser His Trp Leu His Leu Ser
390 305             310             315             320
393 Pro Ser Glu Ser Asn Tyr Ala Pro Ser Leu Ser Ser Met Ile Gly Lys
394             325             330             335
397 Cys Arg Ile Gln Ser Ser Lys Glu Val Ile Pro Asp Thr Val Thr Leu
398             340             345             350
401 Asn Asp Pro Ala Thr Thr Ser Gly Gln Ser Val Ser Asp Ile Gly Ser
402         355             360             365
405 Ser Val Asp Asp Glu Glu Lys Ser Asn Pro Ser Glu Ser Ser Pro Asp
406         370             375             380
409 Arg Phe Ser Leu Ile Ser Gly Ile Ser Glu Val Leu Ser Leu Leu Lys
410 385             390             395             400
413 Ile Leu Gly Asp Gly His Arg His Leu His Met Tyr Lys Cys Gln Glu
414             405             410             415
417 Ala Leu Leu Ala Tyr Gln Lys Leu Ser Gln Lys Gln Tyr Asn Thr His
418             420             425             430
421 Trp Val Leu Met Gln Val Gly Lys Ala Tyr Phe Glu Leu Gln Asp Tyr
422         435             440             445
425 Phe Asn Ala Asp Ser Ser Phe Thr Leu Ala His Gln Lys Tyr Pro Tyr
426         450             455             460
429 Ala Leu Glu Gly Met Asp Thr Tyr Ser Thr Val Leu Tyr His Leu Lys
430 465             470             475             480
433 Glu Glu Met Arg Leu Gly Tyr Leu Ala Gln Glu Leu Ile Ser Val Asp
434             485             490             495
437 Arg Leu Ser Pro Glu Ser Trp Cys Ala Val Gly Asn Cys Tyr Ser Leu
438         500             505             510
441 Arg Lys Asp His Asp Thr Ala Leu Lys Met Phe Gln Arg Ala Ile Gln
442         515             520             525
445 Leu Asn Glu Arg Phe Thr Tyr Ala His Thr Leu Cys Gly His Glu Phe
446         530             535             540
449 Ala Ala Leu Glu Glu Phe Glu Asp Ala Glu Arg Cys Tyr Arg Lys Ala
450 545             550             555             560
453 Leu Gly Ile Asp Thr Arg His Tyr Asn Ala Trp Tyr Gly Leu Gly Met
454             565             570             575
457 Thr Tyr Leu Arg Gln Glu Lys Phe Glu Phe Ala Gln His Gln Phe Gln
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RAW SEQUENCE LISTING ERROR SUMMARY   DATE: 04/24/2002
PATENT APPLICATION: US/10/036,492   TIME: 14:28:10

Input Set : A:\217943US0XCONT.txt
Output Set: N:\CRF3\04242002\J036492.raw

<u>Please Note:</u>
Use of n and/or Xaa have been detected in the Sequence Listing. Please review the
Sequence Listing to ensure that a corresponding explanation is presented in the <220>
to <223> fields of each sequence which presents at least one n or Xaa.

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Seq#:16; Xaa Pos. 29,30,31,33,34
Seq#:18; N Pos. 9,15,18
Seq#:20; N Pos. 6,9,18
Seq#:21; N Pos. 3,6,15
Seq#:32; N Pos. 6,12
Seq#:33; N Pos. 6,15
Seq#:34; N Pos. 15
Seq#:35; N Pos. 9